



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit : 1626
Examiner : Deborah C. Lambkin
Applicant(s) : Atli Thorarensen
Serial Number : 10/034,819
Filed : December 27, 2001
For : Thioxazinoquinolones As Antiviral Agents

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 CFR § 1.111

Sir:

Responding to the Office Action dated September 30, 2003 (hereinafter Office Action), applicants respectfully submit the following amendments and remarks.

REMARKS

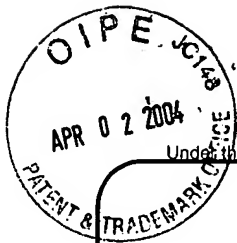
Upon entry of the foregoing amendments, claims 1-17 are pending in the application. All claims were rejected under 35 U.S.C. §103 (a) over Haughan et al (US 5,792,774).

The Examiner states that Haughan et al teach a genus of quinolones compounds which are useful for treating viral infections. Applicant respectfully disagrees with the Examiner's position. The '774 discloses that the quinolones may be used to treat animal viral infections, such as FIV. The '774 did not disclose these compounds could be used for treating herpesviral infections in human. It is known to one skilled in the art that each viral infection has its unique target. There is no reasonable belief that using the compound of '774 would produce activities against herpesviruses. .

The Examiner further states that there is nothing unobvious in choosing a species from a prior art genus, motivation being that said species would be expected to possess the same or similar properties as their exemplified counterparts, absent some unobvious or unexpected results. Applicant respectfully disagrees with the Examiner's position. Applicant submits that the unexpected result is demonstrated in the present invention. For example, the compound of example 1 of the present invention possesses 0.06 IC₅₀ (μM) against HCMV polymerase. Whereas the compound of example 1 in the US Pat. No. 6,340,680 possesses only 0.48 IC₅₀ (μM) against HCMV polymerase (see column 8, lines 40-45 in the '680 patent). Both compounds have the same core quinoline structure except at the 7 position. Both are under the genus of the '774 patent. However, a change from Oxygen to Sulfur at the 7 position of the quinoline core structure shows 10 times better activity in the present invention. Applicant submits that the unexpected result is clear and convincing.

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Small

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PTO/SB/21 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/034,819
	Filing Date	December 27, 2001
	First Named Inventor	Atli Thorarensen
	Art Unit	1626
	Examiner Name	Deborah C. Lambkin
Total Number of Pages in This Submission	Attorney Docket Number	00494.US1

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
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<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
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<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual name	Pharmacia & Upjohn Company	
Signature	<i>Julie K. Lyons</i>	
Date	3-29-2004	

CERTIFICATE OF TRANSMISSION/MAILING		
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.		
Typed or printed name	Julie K. Lyons	
Signature	<i>Julie K. Lyons</i>	Date March 29, 2004

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)**950.00**

Complete if Known

Application Number	10/034,819
Filing Date	December 27, 2001
First Named Inventor	Atli Thorarensen
Examiner Name	Deborah C. Lambkin
Art Unit	1626
Attorney Docket No.	00494.US1

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit
Account
Number
Deposit
Account
Name

21-0718

Pharmacia & Upjohn Company

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☐ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below		Fee Paid	
Total Claims		-20** =	0	X	\$0.00	=	\$0.00
Independent Claims		-3** =	0	X	\$0.00	=	\$0.00
Multiple Dependent					\$0.00	=	\$0.00

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	86	2204	43	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	950.00
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)**950.00**

SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Lucy X. Yang	Registration No. (Attorney/Agent)	40,259	Telephone	(269) 833-9536
Signature		Date	3-29-2004		

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